

U. S. DEPARTMENT of ENERGY
and
BROOKHAVEN NATIONAL LABORATORY

IMPLEMENTATION PLAN

**INTEGRATED MANAGEMENT
AT
BROOKHAVEN NATIONAL LABORATORY**

August 6, 1997

**DEPARTMENT OF ENERGY
AND
BROOKHAVEN NATIONAL LABORATORY
IMPLEMENTATION PLAN**

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1.0 Introduction

1.1 Purpose of the Implementation Plan

The U.S. Department of Energy (DOE) and Brookhaven National Laboratory are proceeding to implement the *Action Plan for Improved Management of Brookhaven National Laboratory (July 1997)*. The Department and the Laboratory will use this Implementation Plan to integrate the environment, safety and health performance into management systems and to promote greater community involvement in all activities of the Laboratory. Most importantly, this Implementation Plan will lead to improved protection for the safety and health of the public, for DOE and Laboratory employees, and for the environment.

This Implementation Plan describes the processes and specific actions that the Department and the Laboratory intend to use to ensure that all actions are properly assigned, tracked, and completed. Included in these implementation items are the decision-making processes for selection of the new contractor to operate the Laboratory, for restart of the High Flux Beam Reactor (HFBR), and for development and implementation of Department and Laboratory management systems. It is the intent of both the Department and the Laboratory to engage the public throughout the implementation of these action items. In fact, improved public participation is itself an action to be implemented by this Plan.

This Plan was developed by a team representing the entities that will be responsible and accountable for successful implementation. The Plan is a blueprint of specific tasks and processes that must be developed and carried out. It is designed as an internal working document to guide the efforts of those responsible for actual results. Also, it can be used by all parties to see how the specific actions address the findings of the earlier independent oversight evaluation of the Laboratory, and how these specific actions track with the higher level goals of the Action Plan.

Since the Brookhaven Group (BHG) will report directly to the Office of Energy Research (ER) at Headquarters for at least one year, the role of the Chicago Operations Office (CH) will be one of support to both BHG and to Headquarters. In addition, CH will ensure that other Laboratories under its purview are addressing environmental, safety and health (ES&H) management needs.

1.2 Background

The U.S. Department of Energy Office of Environment, Safety and Health (EH) conducted an independent oversight evaluation of ES&H management at the Laboratory during February, March, and April 1997. The purpose of the evaluation was to determine how effectively DOE and Laboratory line management had implemented an integrated safety management system

that includes ES&H programs.

The Office of Environment, Safety and Health issued its findings in the April 1997 report *Integrated Safety Management Evaluation of the Brookhaven National Laboratory*. The report indicates that the staffs of DOE and the Laboratory demonstrate competence commensurate with assigned responsibilities in terms of safety management. However, the report also concludes that the effectiveness and implementation of ES&H initiatives by the Department and the Laboratory are limited by a number of weaknesses related to the following: assignment of roles and responsibilities at Department Headquarters; management processes and organizational infrastructure; balancing ES&H and science mission priorities; tracking and resolution of ES&H commitments and issues; and work planning and control systems.

To respond to the findings of the April 1997 report, the Secretary of Energy appointed Dr. Martha Krebs, Director of the Office of Energy Research, to develop the Department's *Action Plan for Improved Management of Brookhaven National Laboratory*, issued for comment in June 1997, and finalized in July 1997. The Secretary stated that the actions conducted in response to the report require senior Department management involvement. In that context, the Action Plan was developed jointly by the Department's Offices of Energy Research, Nuclear Energy, and Environmental Management, along with CH and BHG with input from Brookhaven National Laboratory (BNL).

Six high-level actions were outlined in the Action Plan:

- 1 Establish clear roles and responsibilities for DOE Headquarters and Field offices
- 2 Establish a corporate budget formulation and execution process for ES&H and infrastructure
- 3 Strengthen ER's organizational focus on ES&H and BNL operations
- 4 Change the ES&H culture of DOE and BNL
- 5 Expand community involvement and BNL outreach activities
- 6 Involve the local and scientific communities in deciding the future of the HFBR

1.3 Scope and Structure

The Implementation Plan is organized around the seven guiding principles of effective management that integrate environment, safety and health into work planning and control (DOE Policy 450.4). This is the same format used in the April 1997 report *Integrated Safety Management Evaluation of the Brookhaven National Laboratory*. When fully implemented, these actions will put in place an effective environment, safety and health management structure at the Laboratory. The seven guiding principles are:

- 1 ***Line Management Responsibility for Safety*** - Line management is directly responsible for the protection of the public, the workers, and the environment.
- 2 ***Clear Roles and Responsibilities*** - Clear lines of authority and responsibility for ensuring safety shall be established and maintained at all organizational levels within the department and its contractors.
- 3 ***Competence Commensurate with Responsibility*** - Personnel shall possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.
- 4 ***Balanced Priorities*** - Resources shall be effectively allocated to address safety, programmatic, and operational considerations. Protecting the public, the workers, and the environment shall be a priority whenever activities are planned and performed.
- 5 ***Identification of Safety Standards and Requirements*** - Before work is performed, the associated hazards shall be evaluated and an agreed-upon set of safety standards shall be established that, if properly implemented, will provide adequate assurance that the public, the workers, and the environment are protected from adverse consequences.
- 6 ***Hazard Controls Tailored to Work Being Performed*** - Administrative and engineering controls to prevent and mitigate hazards shall be tailored to the work being performed and to associated hazards.
- 7 ***Operations Authorization*** - The conditions and requirements to be satisfied for operations to be initiated and conducted shall be clearly established and agreed upon.

Actions under these seven principles are described in the Implementation Plan. Public participation is part of many of the seven principles, and is also addressed separately because of its importance to BNL.

Section 2 of this report describes the Headquarters actions necessary to address the Department's Action Plan. Section 3 details the actions to be taken by CH and Section 4, the actions of BHG. The Laboratory's Management System Improvement Program is described in Section 5. A description of the Laboratory's Management System Improvement Program is provided in Appendix A. A crosswalk between the Action Plan and the Implementation Plan is provided in Appendix B. Appendix C summarizes the actions described in the entire Implementation Plan. Actions are presented by date, milestone, and assigned lead.

The Department is committed to improving the ES&H management at BNL. The Implementation Plan reflects a serious commitment to improve environment, safety and health performance at the Laboratory. This Plan is a working document and will be updated on a quarterly basis as progress is made and additional actions are identified. Through implementation of the actions outlined in this Plan, the Department is confident that improvements will be made at BNL to protect the environment and provide for the safety and health of employees and the public.

2.0 DOE Headquarters Actions

The commitment of DOE and the Laboratory leadership to perform science safely, and the structure of the interim management team are the two most critical aspects of success in addressing the concerns raised in the Oversight Report. The commitment starts at the top. Secretary Peña said during his visit to Brookhaven, "It's quite simple. There need not—and will not—be a trade-off between award-winning scientific research and environment, safety and health. Change will not happen overnight, but today's actions begin our work...." The DOE and Laboratory leadership are committed to reinforcing a culture of safe science and to initiate management structures that reinforces that culture in the form of integrated safety management. To ensure this emphasis is implemented and maintained, actions have been identified as necessary within DOE Headquarters organizations and business/management processes.

2.1 Line Management Responsibility for Safety

A. ACTION ITEM: 2.1.A

Establish direct reporting relationship between BHG and ER.

Completion Goal: 11/30/97

Champion: Martha Krebs, Director of Energy Research

Implementation Plan:

In May 1997, the Secretary of Energy appointed an Executive Manager of BHG, reporting directly to the Secretary. This relationship will continue through the establishment of a new contractor for the Laboratory. At that time, BHG will report to the Director of ER.

- Establish reporting roles and responsibilities for BHG and CH - 08/31/97
- Define performance measures to be used in evaluating the effectiveness of the new reporting relationship between ER and BHG in managing the contractor - 11/30/97
- When the new contract for Laboratory operation is in place, the Secretary of Energy will direct BHG to report directly to ER - 11/30/97

B. ACTION ITEM: 2.1.B

Decide on the long-term reporting relationship of BHG.

Completion Goal: 12/31/98

Champion: Secretary of Energy

Implementation Plan:

- The Secretary will evaluate by 11/30/98, the reporting relationship using the performance measures that were previously developed under Action Item 2.1.A.
- The Secretary will decide whether to continue the reporting relationship or to reassign it, and will announce the decision by 12/31/98.

C. ACTION ITEM: 2.1.C

Conduct quarterly review of Brookhaven operations during the first year of BHG reporting to ER.

Completion Goal: 09/15/98

Champion: Martha Krebs, Director of Energy Research

Implementation Plan:

The Director of Energy Research will conduct quarterly reviews of operations at the Laboratory during the first year that BHG reports directly to ER. The Office of Nuclear Energy, Science, and Technology, the Office of Environmental Management, and other program offices will participate in the review. The review will include all aspects of Laboratory operations, with special emphasis on ES&H and infrastructure. The planning, prioritization, and tracking of ES&H and infrastructure activities will be specifically reviewed to ensure that appropriate needs are being met.

- ER will conduct review of BNL operations - 12/15/97
- ER will conduct review of BNL operations - 03/15/98
- ER will conduct review of BNL operations - 06/15/98
- ER will conduct review of BNL operations - 09/15/98

(Subsequent reviews will depend on the long-term reporting relationship for Brookhaven - see Action Item 2.1.B.)

D. ACTION ITEM: 2.1.D

Conduct benchmarking study of management, budget, and business infrastructure systems to improve line management of ES&H and infrastructure at BNL and integrate ES&H more fully into its science and technology mission.

Completion Goal: 03/31/98

Champion: Milt Johnson, Associate Director for Laboratory Operations and ES&H, Energy Research

Implementation Plan:

Three benchmarking studies have been identified: 1) policies, practices, and organizational structure related to line ES&H management, 2) ES&H budget practices and resource allocation, and 3) new and effective approaches to public participation. These study topics may be modified as ER defines more fully the specific benchmarking objectives. The studies will consist of four phases: planning, data collection, analysis, and action.

The **planning phase** consists of choosing the study team, clarifying the objectives and defining the scope of the study, charting the existing processes that are to be improved by the study, establishing performance measures that will help identify when external processes are better, and identifying potential benchmarking “partners.” Benchmarking partners are the organizations that ER will study in order to identify improvements. Once potential benchmarking partners are identified, the **data collection phase** will involve developing and administering questionnaires and surveys, preparing written agreements with benchmarking partners, and visiting some of the benchmarking partners. After data have been collected, the **analysis phase** involves analyzing the data to identify those practices that represent clear improvement over current practices and that can be implemented within ER. The **action phase** involves developing a plan to modify current processes applying to BNL, based on the results of the analysis phase. The plan will assign specific tasks to individuals within ER with scheduled completion dates and resources available to ensure their completion. The report will also include recommendations for lessons learned at other ER laboratories.

- Complete planning phase of benchmarking study - 09/19/97
- Complete data collection phase of benchmarking study - 11/27/97
- Complete analysis phase of benchmarking study - 01/23/98
- Complete action phase and report of benchmarking study - 03/31/98

2.2 Clear Roles and Responsibilities

A. ACTION ITEM: 2.2.A

Establish ER Associate Director for Laboratory Operations and ES&H.

Completion Goal: 08/31/97

Champion: Martha Krebs, Director of Energy Research

Implementation Plan:

- Hold discussions with the National Treasury Employees Union - 06/30/97
- Develop the mission and functions statement for the new office and provide it to the Union for review - 07/15/97

- The Director of ER will approve the mission and function statement and implement the new organization - 08/31/97

B. ACTION ITEM: 2.2.B

Establish ER corporate focus on ES&H and infrastructure, allowing management to balance the priorities of scientific research and ES&H protection.

Completion Goal: 12/31/97

Champion: Milt Johnson, Associate Director for Laboratory Operations and ES&H,
Office of Energy Research

Implementation Plan:

The Associate Director for Laboratory Operations and ES&H will assist the Director of ER in establishing specific expectations for ES&H performance in each ER program. The Director will communicate the expectations and hold each Program Associate Director accountable to these expectations in annual performance appraisals as well as in day-to-day activities.

The Office of Laboratory Operations and ES&H will assist the Program Associate Directors in reviewing ES&H performance at the laboratories. For each laboratory, the performance measures will be identified and a plan for conducting a regular, formal review of the measures will be developed. Each of the Program Associate Directors will decide on the final plan to be followed and incorporate it into their existing program review processes.

The Associate Director for Laboratory Operations and ES&H serves as the Executive Secretary for the Headquarters-Brookhaven Management Council and provides staff to support the Council's activities. The first task of the Council will be to clearly establish the roles and responsibilities for ES&H and infrastructure at Brookhaven among the various Headquarters and field elements with activities at the Laboratory. This experience will be applied to other multi-program ER laboratories to establish clear roles and responsibilities for each laboratory. Another key function of the Council will be to plan, prioritize, and track the annual ES&H and infrastructure funding requirements for BNL. Based on this experience, a process for accomplishing the same functions at other ER laboratories will be developed and applied.

- The Associate Director for Laboratory Operations and ES&H will develop proposed expectations for ES&H performance in the ER science programs - 09/15/97
- The Director of ER will assign expectations for ES&H performance to each of the Associate Directors - 10/15/97
- The Associate Directors of ER will develop plans for regular formal review of ES&H performance measures used by ER laboratory contractors - 10/30/97
- The Associate Director of Laboratory Operations and ES&H will develop a set of ER

Headquarters roles and responsibilities for ES&H and infrastructure applicable to all ER laboratories - 12/31/97

C. ACTION ITEM: 2.2.C

Establish Headquarters-Brookhaven Management Council and agree upon FY98 and FY99 funding priorities.

Completion Goal: 09/30/97

Champion: Martha Krebs, Director, Energy Research

Implementation Plan:

The purpose of the Headquarters-Brookhaven Management Council is to coordinate and integrate the Department's ES&H and infrastructure management of the Laboratory among Headquarters Departmental elements involved in performing activities at the site. The Council will enable ER, as "landlord," and the other DOE program offices, as "tenants," to make informed and coordinated decisions about priorities and funding for infrastructure and ES&H activities at the Laboratory.

- Hold first meeting of the Council on 06/25/97
- Develop a memorandum of agreement that establishes the respective landlord and tenant roles for BNL - 09/30/97
- Review and agree upon the recommendations for FY98 and FY99 funding for high priority ES&H and infrastructure activities at the Laboratory, including the continuing tritium remediation - 09/30/97

2.3 Competence Commensurate with Responsibilities

A. ACTION ITEM: 2.3.A

Provide training for ER program managers and staff to ensure that ES&H is given appropriate management attention.

Completion Goal: 12/31/97

Champion: Milt Johnson, Associate Director for Laboratory Operations and ES&H, Energy Research

Implementation Plan:

The ER Office of Laboratory Operations and ES&H will assist the Director of ER in the identification of ES&H training needs for Headquarters program staff. This training will

ensure that ER manages its programs in a way that recognizes hazards and provides for safe and environmentally responsible operations. It will be the responsibility of the Program Associate Directors to see that needed training is given to staff; the Office of Laboratory Operations and ES&H will coordinate the identification of annual training needs and provide training, as requested.

- Identify ES&H training needs for ER program staff - 10/15/97
- Update training plans for ER technical staff to include ES&H training - 12/31/97
- Complete new ES&H training requirements - 12/31/98

B. ACTION ITEM: 2.3.B

Provide training for BHG and BNL personnel for the development of Integrated Safety Management (ISM) and Work Smart Standards (WSS).

Completion Goal: 10/30/97

Champion: Charles Billups, Director of ES&H Management Division, Energy Research

Implementation Plan:

- Develop and conduct workshop for BHG and BNL managers on ISM - 07/22/97
- Three training courses will offer additional training to cover the appropriate level of need by DOE, BHG and BNL personnel. The courses are: (1) WSS Orientation, (2) Management Overview, and (3) WSS Process Training for Convened Groups and Identification Teams - 10/30/97

2.4 Balanced Priorities

The Oversight Report identified a DOE-wide issue regarding the funding of ES&H and infrastructure at multi-program laboratories. The budget formulation and execution processes as they are applied to multi-program laboratories can create situations where programs may be inclined to trade off ES&H requirements against mission-related work. The budget process needs to be modified to make funding of ES&H an integral part of the budgeting process such that a single program at a site is accountable and responsible for all ES&H activities at a site.

A. ACTION ITEM : 2.4.A

Ensure adequate funding for ES&H and infrastructure maintenance/improvement activities by strengthening the budget formulation and execution process to provide greater ownership and accountability for these activities.

Completion Goal: 08/31/98

Champion: John Hubbard, Office of the Chief Financial Officer (CR)

Implementation Plan:

A single Headquarters organization will be assigned to be responsible and accountable for the ES&H needs at a given DOE site. The most appropriate single point of management accountability for each site is the Headquarters office which is the site landlord; this would likely be the office which provides the most funding for programs at that site. CR will review existing budget guidance on landlord assignments and responsibilities, and strengthen areas of confusion or which are otherwise deficient.

The basic mechanism for identifying ES&H activities and funding needs already exists in the form of the ES&H Management Planning process. CR's direction will build upon this existing process by reviewing all ES&H needs across programs and funding mechanisms. To further evaluate this approach, CR and EH will convene an informal working group consisting of representatives from selected Headquarters programs and Field Chief Financial Officers. This group will develop recommendations for improving the review of site ES&H needs and these recommendations will be used to modify the CR/EH guidance as appropriate.

B. ACTION ITEM: 2.4.B

Establish FY99 ES&H priorities within targets.

Completion Goal: 09/30/97

Champion: John Hubbard, Office of the Chief Financial Officer (CR)
John Yates, Director of Infrastructure Management Division, Energy Research

Implementation Plan:

Review of FY99 ES&H funding priorities is currently in progress. CR and EH have developed a plan for ensuring that ES&H activities are addressed in the FY99 budget process and ensuring that significant risks and high priority ES&H budget items identified in the ES&H Management Plan are funded by the responsible programs. This review was completed during the first half of July 1997, which allowed comparison of ES&H Management Plan data to the Program Budgets for the FY99 budget formulation.

For BNL, site-wide priorities for ES&H, infrastructure, and general plant projects will be reviewed at the next meeting of the Headquarters-Brookhaven Management Council. This review will encompass all ES&H, infrastructure, and construction needs regardless of program or funding source. Following the review, appropriate modifications to FY99 budget

requests will be made by the Headquarters programs to ensure adequate funding for all high-priority ES&H activities at BNL.

- CR and EH completed discussions with sites to assess adequacy of planned funding for significant risks and high-priority ES&H activities - 07/31/97
- Headquarters-Brookhaven Management Council reviewed BNL site-wide priorities for ES&H, infrastructure and general plant projects; incorporate into program budget requests as needed - 07/31/97
- CR and EH will compare ES&H Management Plan data to FY99 Program Budget formulations; provide feedback to affected program offices on any revisions to their budget submittals that might be needed to fully address significant ES&H issues - 09/30/97

C. ACTION ITEM: 2.4.C

Develop process to track the execution of ES&H budgets across programs and funding mechanisms.

Completion Goal: 12/31/97

Champion: John Hubbard, Office of the Chief Financial Officer (CR)

Implementation Plan:

Careful budget formulation is of little value unless the money is actually spent as planned. This will be assured by development of a process to track the execution of ES&H budgets across programs and funding mechanisms. The ES&H Management Planning process already provides this capability and mandates the development of annual ES&H Execution Plans which detail the ES&H activities to be performed within the actual funding allotted for the immediately upcoming fiscal year. Currently, review of ES&H Execution Plans occurs only at the Operations Office level. Through coordination with field representatives and EH, CR will provide direction on strengthening the existing ES&H budget execution process through increased involvement by Headquarters program offices.

For BNL, ER will review and approve the FY98 ES&H Execution Plan. ER will also conduct quarterly reviews throughout FY98 to assess the status of planned ES&H activities and funding.

- CR will begin meeting with field and Headquarters representatives to identify and evaluate improvements to the execution tracking currently provided through the ES&H Management Planning process - 08/29/97
- CR and EH will finalize the ES&H execution tracking process and issue direction for implementing the process - 12/31/97

D. ACTION ITEM: 2.4.D

Expand the ES&H budget formulation and execution tracking processes to include all infrastructure elements.

Completion Goal: 07/31/98

Champion: John Hubbard, Office of the Chief Financial Officer (CR)

Implementation Plan:

The Department must determine if it needs a similar process for overseeing other infrastructure costs. CR has been discussing with FM, ER and other offices the need, the costs and the benefits of the development of a formulation and execution tracking process to include these other infrastructure elements. ER has already developed an tracking system based on the ES&H Management Plan to track infrastructure activities at ER facilities. It is possible that this system could be expanded to include the rest of DOE. Another possibility being pursued by CR is having the Financial Management Systems Improvement Council study the issue and provide recommendations.

The direction and plans described above will be applied to the FY99 budget process wherever feasible, but many of these improvements cannot be implemented until the FY 2000 budget process, since formulation of the FY99 budget is already underway.

- CR will complete discussions with FM and ER - 08/29/97
- CR will complete plans and recommendations for expansion of budget formulation and execution tracking process to other infrastructure elements if appropriate - 05/31/98

2.5 Identification of Safety Standards and Requirements

A. ACTION ITEM: 2.5.A

Ensure appropriate identification of safety standards and requirements through participation in the WSS process.

Completion Goal: 11/30/98

Champion: Charles Billups, Director of ES&H Management Division, Energy Research

Implementation Plan:

- ER will provide representatives to serve as members of the Convened Group and the

- Confirmation Team as part of the WSS process - 11/01/97
- The Director of ER will approve the final set of WSS since BHG will be reporting directly to the Director of ER - 11/30/98

2.6 Hazard Controls Tailored To Work Being Performed

A. ACTION ITEM: 2.6.A

Apply experience from development of BNL's revised "Conduct of Experiments" (COE) Program to other ER laboratories.

Completion Goal: 03/30/98

Champion: Charles Billups, Director of ES&H Management Division, Energy Research

Implementation Plan:

- Review with BHG, BNL's implementation of its revised COE Program - 11/30/97
- Provide lessons learned from BNL to other ER laboratories - 03/30/98

2.7 Operations Authorization

A. ACTION ITEM: 2.7.A

Ensure appropriate Headquarters authorization of operations at BNL.

Completion Goal: 12/31/97

Champion: Milt Johnson, Associate Director for Laboratory Operations and ES&H, Energy Research

Implementation Plan:

- Assist BHG in specifying the DOE operations authorization responsibilities for the BHG ES&H Management System Plan - 10/25/97
- Coordinate review of operations authorization responsibilities in the BHG ES&H Management System Plan among Headquarters Program Offices through the Headquarters-Brookhaven Management Council - 12/31/97

2.8 Public Participation

A. ACTION ITEM: 2.8.A

Obtain public input in planning for improved management of BNL.

Completion Goal: 07/15/97

Champion: Martha Krebs, Director of Energy Research

Implementation Plan:

- Draft Action Plan released for public comment - 06/15/97
- Public comments on Action Plan received and evaluated - 06/25/97
- Final Action Plan incorporating public comments released to the public - 07/15/97

B. ACTION ITEM: 2.8.B

Obtain public input in the HFBR restart decision.

Completion Goal: 01/30/98

Champion: Martha Krebs, Director of Energy Research

Implementation Plan:

Public participation will be sought to provide input to the decision about the restart of the HFBR at BNL. A careful, thorough, objective review of the issues and alternatives involved is necessary, with the inclusion of public input, to arrive at the best possible balance of all concerns. The Secretary of Energy will ultimately make the decision, based on input from the scientific community and the public, and evaluate the costs and benefits of the restart, and the other resources available for similar research that currently exist or are planned.

- The Basic Energy Sciences Advisory Committee evaluates restarting the HFBR - 10/31/97
- The Basic Energy Sciences Advisory Committee recommends whether or not to restart the HFBR - 11/30/97
- BHG conducts open meetings to hear the public's views - 12/31/97
- Input from the new BNL contractor is received - 12/31/97
- The Director of ER makes a recommendation on the HFBR restart to the Secretary of Energy - 01/30/98

3.0 DOE Chicago Operations Office Actions

The EH Oversight Report of April 1997 identified numerous opportunities for improvement in DOE's safety management systems. Pursuing these opportunities calls for far-reaching changes in the way DOE conducts business, including specific changes in DOE Chicago's management systems.

The BHG will be reporting directly to ER for the first year of the new contract; CH will provide technical and administrative support and be ready to resume direct management of BHG. This section describes elements of that support, as well as Chicago's plans to identify and address similar opportunities to improve operations at six other laboratories administered by CH.

3.1 Line Management Responsibility for Safety

A. ACTION ITEM: 3.1.A

Conduct CH-wide ES&H summit to discuss framework for reshaping CH ES&H management system.

Completion Goal: 06/24/97

Champion: Cherri Langenfeld, Manager, Chicago Operations Office

Implementation Plan:

- The CH manager will host an ES&H summit, involving all facility group managers and their key supervisors and team leaders to discuss activities called for by this implementation plan at all Chicago sites - 06/24/97

B. ACTION ITEM: 3.1.B

Identify and address management improvement opportunities at CH management and operating (M&O) and government-owned, government-operated (GOGO) contractors (follow-on from ES&H summit).

Completion Goal: 12/31/97

Champion: Cherri Langenfeld, Manager, Chicago Operations Office

Implementation Plan:

- Group Managers catalogue existing ES&H and facility maintenance related corrective

actions which are not currently funded - 07/22/97

- Review the Facility Groups currently described process, policies and procedures for line management responsibilities for ES&H, and report to the Continuous Improvement Council at the Quarterly Meeting - (07/31/97)
- Schedule regular follow-up ISM assessments - 08/31/97
- Facility Group Managers include annual line assessment schedules in business plans - 11/30/97
- Develop a comprehensive Chicago Management/Corporate Line Oversight Plan - 12/31/97
- Schedule and perform initial ISM evaluations of Argonne (08/31/97), Fermilab (10/31/97), Princeton (12/31/97)

C. ACTION ITEM: 3.1.C

Develop programmatic and contractual operations performance measure and assessment criteria for BNL contract.

Completion Goal: 11/15/97

Champion: Steve Silberglid, Chicago Operations Office

Implementation Plan:

- Develop programmatic and contractual operations performance measure and assessment criteria for BNL contract - 11/15/97

3.2 Clear Roles and Responsibilities

A. ACTION ITEM: 3.2.A

Approve and issue CH Function, Responsibilities, and Authorities Manual.

Completion Goal: 07/15/97

Champion: Michael Flannigan, Chicago Operations Office

Implementation Plan: 07/10/97

B. ACTION ITEM: 3.2.B

Revise CH position descriptions and support revision of position descriptions for BHG and other line groups.

Completion Goal: 11/01/97

Champion: John Kennedy, Chicago Operations Office

Implementation Plan:

- Support revision of BHG position descriptions - 07/02/97
- Add performance elements to CH menu to establish accountability for ES&H in all CH positions - 07/14/97
- Revise, as appropriate, position descriptions for other line groups - 11/01/97

3.3 Competence Commensurate with Responsibilities

A. ACTION ITEM: 3.3.A

Ensure technical competence of workforce.

Completion Goal: TBD

Champion: Michael Flannigan, Chicago Operations Office

Implementation Plan:

- Issue CH Federal Technical Workforce Qualification Manual (CH M 360.1) - 07/30/97
- Certify CH's technical managers to the DOE Senior Manager Standard - (TBD, pending Headquarters approval of pilot)
- Implement CH Federal Technical Workforce Qualification Program (TBD)
- Provide technical support to improve surveillance of BNL (as requested)

3.4 Balanced Priorities

A. ACTION ITEM: 3.4.A

Support process improvements to the ES&H management planning.

Completion Goal: Continuing

Champion: Michael Flannigan, Chicago Operations Office

Implementation Plan:

- Support BNL Review of FY98 and FY99 ES&H Management Plans with County and State authorities. (A project team has been assembled to integrate management and stakeholder input into current ongoing processes.)
- Develop procedure for management involvement in risk ranking process for all CH

- groups. (Initial procedure delivered to BHG 05/23/97.)
- Task “ES&H Planning” Process Improvement Team to examine process improvements relating to the Chicago ES&H Management Plan - 07/15/97
- Support BNL site-wide environmental vulnerability study (Study completed 07/01/97, reports under review.)

B. ACTION ITEM: 3.4.B

Assist Headquarters management systems improvement.

Completion Goal: Continuing

Champion: Cherri Langenfeld, Manager, Chicago Operations Office

Implementation Plan:

- Participate in Headquarters efforts to reform resource planning, resource allocation, and infrastructure funding processes for multi-program laboratories
- Serve as member of Headquarters-Brookhaven Management Council
- Participate as member of Council working group

3.5 Identification of Safety Standards and Requirements

A. ACTION ITEM: 3.5.A

Revise CH Operational Surveillance Program.

Completion Goal: 12/31/97

Champion Michael Flannigan, Chicago Operations Office

Implementation Plan:

- Undertake a comprehensive look at the operational surveillance program - 12/31/97
- Upgrade the surveillance representative program - 12/31/97
- Develop CH/BHG self-assessment criteria and tiered self-assessment structure - 12/31/97
- Incorporate key elements from the Line Oversight initiative - 12/31/97

3.6 Hazard Controls Tailored to Work Being Performed

A. ACTION ITEM: 3.6.A

Support Improvements in tracking and trending systems.

Completion Goal: As requested

Champion: Michael Flannigan, Chicago Operations Office

Implementation Plan:

- Support BHG in the development and testing of an integrated (contractor/DOE) issues/resolution tracking and lessons learned system (ongoing)
- Support review of Brookhaven application of tracking and trending system (ongoing)

B. ACTION ITEM: 3.6.B

Participate in sharing of lessons learned from BNL's implementation of its COE Program.

Completion Goal: 12/31/97

Champion: Michael Flannigan, Chicago Operations Office

Implementation Plan:

- Participate in sharing of lessons learned from BNL's implementation of its COE Program - 12/31/97

3.7 Operations Authorizations

A. ACTION ITEM: 3.7.A

Support operation authorization reviews.

Completion Goal: As requested

Champion: Michael Flannigan, Chicago Operations Office

Implementation Plan:

- Support review of the BHG protocol for operations authorization
- Support review of accelerator facility Implementation Plans
- Support review of Safety Analysis Reports (SAR) for nuclear facilities and other hazards analysis documentation at non-nuclear facilities

3.8 Public Participation

A. ACTION ITEM: 3.8.A

Manage the acquisition of a new contractor with clear expectations regarding operations.

Completion Goal: 11/15/97

Champion: Cherri Langenfeld, Manager, Chicago Operations Office

Implementation Plan:

- Obtain public input for the procurement process - 05/28/97
- Issue Strategic Solicitation Plan - 06/16/97
- Hold workshops on the Strategic Solicitation Plan - 06/25/97
- Provide opportunity for employee concerns to be presented to prospective offerors - 07/09/97
- Incorporate public comments and issue Request for Proposal - 07/15/97
- Respond to public comments on the procurement process - 08/15/97
- Hold pre-proposal conference - 08/15/97
- Coordinate announcement of selection of new contractor with public officials and employees - 11/15/97

B. ACTION ITEM: 3.8.B

Conduct benchmarking for community participation.

Completion Goal: 09/08/97

Champion: Gary Pitchford, Chicago Operations Office

Implementation Plan:

- Develop a benchmarking conference plan to discuss with ER, BHG, and selected DOE and laboratory communications directors - 07/31/97
- Identify participating organizations in benchmarking conference - 07/31/97
- Invite selected organizations to make presentations at the benchmarking conference and coordinate participation - 08/15/97
- Conduct benchmarking conference - 09/08/97

4.0 DOE Brookhaven Group Actions

The EH Integrated Safety Management Evaluation identified a number of opportunities where BHG could improve its operational awareness and oversight of ES&H management systems at BNL. The evaluation was based on the seven guiding principles of ISM. Based on a thorough review of the evaluation, BHG has identified the actions described below, each with a designated champion and specific milestones.

Implementation of these actions will be tracked to timely completion by the designated champion. Additionally, all milestones will be included in a database so that BHG management can track and report progress to appropriate elements of the Department.

4.1 Line Management Responsibility for Safety

A. ACTION ITEM: 4.1.A

To strengthen personal ES&H accountability, ES&H performance elements will be included in the annual performance appraisal criteria for all BHG personnel.

Completion Goal: 08/31/97

Champion: Bob Gordon, Brookhaven Group

Implementation Plan:

- BHG management will complete development of new ES&H elements in the annual performance appraisal system - 07/31/97
- Supervisors will review revised ES&H elements with employees prior to incorporation into employees appraisal - 08/15/97
- Supervisors will make appropriate changes, receive employee agreement and will execute revised performance appraisals (inclusive of new ES&H performance elements) - 08/31/97
- Full implementation of new performance appraisal criteria - 09/15/97

B. ACTION ITEM: 4.1.B

BHG management will take aggressive action to ensure that ES&H policies, programs, requirements and commitments are understood, accepted and implemented at BNL. This will include increased personal involvement of BHG managers in BNL operational activities including more frequent visits to Laboratory facilities through participation in weekly surveillance and special, management-led, issue specific reviews.

Completion Goal: 10/07/97

Champion: Frank Crescenzo, Brookhaven Group

Implementation Plan:

- Incorporate BHG management ES&H responsibilities into the BHG ES&H Management System document - 09/15/97
- Complete a detailed procedure outlining specific BHG management involvement in ES&H oversight activities - 10/01/97
- Development a schedule for FY98 management activities - 10/07/97

C. ACTION ITEM: 4.1.C

BHG will develop and implement a self-assessment plan to assess performance of ES&H management systems at BHG.

Completion Goal: 12/30/97

Champion: Lloyd Nelson, Brookhaven Group

Implementation Plan:

- Clearly define BHG ES&H management responsibilities in an ES&H Management System document - 09/15/97
- Develop procedure for conducting self-assessment, including prioritization methods and corrective action methods - 10/30/97
- Develop performance metrics based on pre-determined activity levels outlined in the BHG ES&H Management System procedure - 11/15/97
- Develop schedule for periodic self-assessments based on DOE risk ranking criteria - 12/30/97

D. ACTION ITEM: 4.1.D

Conduct an organizational culture survey at BNL to baseline management culture change.

Completion Goal: 11/30/97

Champion: Frank Crescenzo, Brookhaven Group

Implementation Plan:

A number of actions are planned within the Laboratory with the purpose of changing the existing culture to improve attention to environment, safety, and health. In order to be able to measure improvements to the culture, the current culture needs to be established through a survey of Laboratory employees.

- Complete data collection - 10/30/97
- Issue results of survey - 11/30/97

4.2 Clear Roles and Responsibilities

A. ACTION ITEM: 4.2.A

BHG will add ES&H responsibilities to all applicable BHG position descriptions.

Completion Goal: 09/30/97

Champion: Bob Gordon, Brookhaven Group

Implementation Plan:

- Develop an inventory of ES&H related duty and responsibility statement for incorporation into BHG position descriptions - 07/02/97
- Match the appropriate statements to respective BHG positions - 07/02/97
- Employees and supervisors discuss revised position descriptions - 07/31/97
- Supervisors make appropriate changes and officially revised position descriptions - 09/30/97

B. ACTION ITEM: 4.2.B

BHG will develop a Management System that will outline procedures and strategies for ES&H elements such as roles and responsibilities, communication, surveillance activities, training, management involvement, assessment plans and tracking/trending database usage.

Completion Goal: 11/15/97

Champion: Bob Desmarais, Brookhaven Group

Implementation Plan:

- Complete BHG reorganization plan (see Action Item 4.2.D) - 08/30/97
- Complete an outline of the Management System - 09/15/97
- Complete the Management System draft document - 10/15/97
- Review and approve the Management System document - 10/25/97
- Conduct training of BHG personnel and implement system - 11/15/97

C. ACTION ITEM: 4.2.C

BHG will identify clear ES&H roles and responsibilities for BHG positions and ensure that they complement the CH level II Functions, Responsibilities, and Authorities Manual

(FRAM).

Completion Goal: 09/30/97

Champion: Bob Desmarais, Brookhaven Group

Implementation Plan:

- Complete BHG staff reorganization plan - 08/30/97
- Develop ES&H roles and responsibilities and incorporate them into the BHG ES&H Management System document - 09/15/97
- Conduct a crosswalk with the CH level II FRAM to ensure consistency - 09/30/97

D. ACTION ITEM: 4.2.D

BHG will make organizational changes to ensure clear definition of roles and responsibilities, accountability, sufficient staff, requisite technical skill mix and necessary infrastructure to facilitate ISM performance based contract operations as well as to properly monitor BNL ES&H performance.

Completion Goal: 10/15/97

Champion: Jim Yeck, Brookhaven Group

Implementation Plan:

- Develop clear vision of BHG roles and responsibilities based on self-assessment against Departmental expectations as documented in Orders, ISM evaluation report and other guidance - 08/01/97
- Define requisite staffing levels and corresponding technical skill mixes - 08/11/97
- Approve BHG reorganization plan - 08/30/97
- Implement reorganization plan - 09/08/97 and beyond

4.3 Competence Commensurate with Responsibilities

A. ACTION ITEM: 4.3.A

BHG will train and assign facility representatives, surveillance representatives and technical experts in accordance with the appropriate Departmental standards.

Completion Goal: 01/05/98

Champion: Lloyd Nelson, Brookhaven Group

Implementation Plan:

- Develop clear vision of BHG operational awareness and ES&H oversight responsibilities and requirements with support from EH mentors - 08/15/97
- Identify employees assigned as facility representatives, surveillance representatives and technical experts - 09/15/97
- Cross-reference qualifications of personnel with DOE requirements - 09/30/97
- Identify training needs of all affected BHG employees - 10/30/97
- Develop training schedule based on available resources - 11/30/97
- Administer training and examinations - 01/05/98

B. ACTION ITEM: 4.3.B

BHG will complete the hiring process for four previously identified critical positions in the areas of health physics, environmental engineering, environmental compliance and public participation.

Completion Goal: 09/30/97

Champion: Caroline Polanish, Brookhaven Group

Implementation Plan:

- Issue vacancy announcements - 06/19/97
- Review submitted applications - 08/30/97
- Conduct interviews of applicants - 09/15/97
- Make applicant selections and extend offers - 09/30/97

C. ACTION ITEM: 4.3.C

BHG will develop an agreement with the CH Manager to utilize CH and other technical support personnel to fulfill immediate BHG oversight resource deficiencies. This action has been initiated and will continue until the BHG organizational review is completed and appropriate resources are permanently in place. CH support will then continue to be utilized for special projects, issues and evaluations on an as-needed basis.

Completion Goal: 08/15/97

Champion: Bob Desmarais, Brookhaven Group

Implementation Plan:

- Finalize support agreement with CH Manager - 08/15/97

4.4 Balanced Priorities

A. ACTION ITEM: 4.4.A

BHG will strengthen its involvement in the current FY99 ES&H Management Plan prioritization process.

Completion Goal: 08/01/97

Champion: Larry Hinchliffe, Brookhaven Group

Implementation Plan:

- Provide BHG participation on Risk Ranking Team - 06/30/97
- Draft a BHG procedure for review of laboratory ES&H planning, prioritization, and resource allocation - 06/30/97
- Implement BHG management participation in advisory group to review prioritization and ensure stakeholder input - 07/15/97
- Review, approve, and implement BHG procedure (as above) - 08/01/97

B. ACTION ITEM: 4.4.B

BHG will develop and document a process for BHG oversight of the BNL ES&H Management Plan. This process will detail the BHG activities involved with the initial development and review of prioritization decisions; continuous monitoring to verify projects ' completion; stakeholder involvement; and the feedback of trended issues into the development of future plans.

Completion Goal: 08/15/97

Champion: Larry Hinchliffe, Brookhaven Group

Implementation Plan:

- Draft a procedure to satisfy the requirements of this action - 06/30/97
- Review, approve, and implement this procedure - 08/01/97
- Assign responsibilities to Subject Matter Experts, Division Directors, and the ES&H Management Plan Coordinator - 08/15/97
- Remain informed of status of ES&H issues via ongoing activities and periodic reviews; continuous throughout the planning and execution cycle

C. ACTION ITEM: 4.4.C

Guide and monitor BNL 's site-wide environmental vulnerability study.

Completion Goal: 10/31/97

Champion: Caroline Polanish, Brookhaven Group

Implementation Plan:

- Complete the Priority I facilities review and issue an Interim Report - 08/30/97
- Complete the Priority II facilities review and issue an Interim Report - 09/30/97
- Complete the Final Report for Priority I and I facilities - 10/31/97

D. ACTION ITEM: 4.4.D

Expand participation in an Environmental Protection Agency (EPA) environmental evaluation.

Completion Goal: 12/30/97

Champion: Gerald Granzen, Brookhaven Group

Implementation Plan:

- Initiate discussions with EPA on scope of Phase II and Phase III environmental evaluation - 05/15/97
- Hold DOE/BNL-EPA planning meeting on Phase II and Phase III Audit Plan - 07/16/97
- Complete agreement with EPA on Phase II and Phase III evaluations - 12/30/97

4.5 Identification of Safety Standards and Requirements

A. ACTION ITEM: 4.5.A

BHG will work with BNL to implement an ISM System that incorporates the elements of WSS and Enhanced Work Planning (EWP) and ensures emphasis on environmental issues along with safety and health concerns. BHG will seek public/worker involvement in these processes.

Completion Goal: 09/30/97

Champion: Bob Desmarais, Brookhaven Group

Implementation Plan:

- Work with ER and BNL to plan, coordinate and conduct an ISM workshop for ER, BHG and BNL senior management personnel - 07/22/97

- Conduct a series of planning meetings with BNL management to determine the ISM path forward strategy - 08/01/97 to 09/15/97
- Approve an ISM System Plan - 09/30/97
- Issue an ISM activity implementation schedule including the initiation of the WSS process - 09/30/97

B. ACTION ITEM: 4.5.B

BHG will implement the necessary changes into its oversight program to verify that ES&H requirements and policies are clearly understood, accepted and implemented at BNL. BHG will amend and develop procedures to improve surveillance activities, focus more on work performance, detail a formalized assessment plan and build enhanced operational and management awareness. The results of this process will be integrated into an issues resolution system. (See section 6 for tracking and trending.)

Completion Goal: 12/15/97

Champion: Bob Desmarais, Brookhaven Group

Implementation Plan:

- Complete BHG staff reorganization plan - 08/30/97
- Develop clear vision of BHG ES&H roles and responsibilities based on self-assessment against Departmental expectations as documented in Orders, ISM evaluation report and other guidance. Incorporate it into the BHG ES&H Management System document - 09/15/97
- Implement the BHG database tracking system - 10/15/97
- Issue the approved BHG ES&H Management System document - 10/25/97
- Complete and issue all associated procedures - 11/15/97
- Complete training of BHG personnel and fully implement oversight program - 12/15/97

4.6 Hazard Controls Tailored to Work Being Performed

A. ACTION ITEM: 4.6.A

BHG will develop, document and implement an office-wide action/commitment tracking database system.

Completion Goal: 10/24/97

Champion: Mark Parsons, Brookhaven Group

Implementation Plan:

- Conduct planning meeting with BHG divisional representatives to determine needs - 07/25/97
- Write specification for database - 08/01/97
- Develop intermediate database - 08/15/97
- Evaluate intermediate database - 08/29/97
- Write BHG procedure for database usage - 10/10/97
- Deploy database - 10/24/97
- Conduct training sessions for database usage - 10/24/97

B. ACTION ITEM: 4.6.B

BHG will incorporate analysis of data obtained from the newly developed BNL integrated tracking and trending system into BHG management decisions affecting BHG oversight activities and BHG direction to BNL.

Completion Goal: 10/15/97

Champion: Larry Hinchliffe, Brookhaven Group

Implementation Plan:

- Examine BNL Integrated Tracking and Trending System - 06/30/97
- Identify and evaluate needs and available products - 08/15/97
- Initiate and test prototypes - 09/15/97
- Choose and implement system - 10/15/97
- Input new data, analyze, trend, etc. information in a fashion useful to BHG oversight of ES&H issues - ongoing

C. ACTION ITEM: 4.6.C

BHG will verify improvements to BNL's implementation of effective COE program (experiment safety reviews, hazard controls for bench-level experiments, training, etc.).

Completion Goal: 11/24/97

Champion: Pepin Carolan, Brookhaven Group

Implementation Plan:

- Identify past and current activities of the BNL COE program (BHG) - 07/01/97 - 08/18/97
- Establish criteria and process to review present BNL implementation of COE program - 08/19/97 - 10/13/97
- Evaluate implementation of COE program - 10/14/97 - 11/24/97

4.7 Operations Authorization

A. ACTION ITEM: 4.7.A

BHG will clearly specify its operations authorization responsibilities in the BHG ES&H Management System Plan. This will include both review and approval protocols. These responsibilities will be compatible with Departmental requirements.

Completion Goal: 11/15/97

Champion: Bob Desmarais, Brookhaven Group

Implementation Plan:

- Inventory BHG operations authorization responsibilities - 09/15/97
- Incorporate operations authorization responsibilities into Management System document - 10/25/97
- Complete crosswalk with Departmental requirements responsibilities - 11/15/97

B. ACTION ITEM: 4.7.B

BHG will conduct a thorough review of the Alternating Gradient Synchrotron (AGS) and National Synchrotron Light Source (NSLS) safety documentation to ensure that an adequate authorization basis exists.

Completion Goal: 01/12/98

Champion: Pepin Carolan, Brookhaven Group

Implementation Plan:

- On-site DOE review planning meeting and follow-up - 07/01/97 - 08/20/97
- Conduct reviews/on-site facility visits - 08/21/97- 12/15/97
- Issue a report addressing adequacy of existing authorization bases (Review Team) - 12/15/97 - 01/12/98

C. ACTION ITEM: 4.7.C

The updated HFBR SAR will be reviewed.

Completion Goal: 12/31/98

Champion: Mike Holland, Brookhaven Group

Implementation Plan:

- Upgrade of the HFBR SAR is being tracked and controlled under HFBR Resumption of Operations Plan Work Breakdown Structure (item 2.2.1) and is scheduled for completion on 12/31/98

D. ACTION ITEM: 4.7.D

BHG will issue a schedule for review of SARs for other BNL nuclear facilities and other hazards analysis documentation at BNL non-nuclear facilities and recommend revisions as necessary.

Completion Goal: 11/28/97

Champion: Pete Kelley, Brookhaven Group

Implementation Plan:

- Assemble a review team to determine scope of reviews to be performed - 10/01/97
- Identify facilities and hazards analyses to be reviewed - 10/31/97
- Issue schedule for completion of reviews - 11/28/97

4.8 Public Participation

A. ACTION ITEM: 4.8.A

BHG will participate in a public participation initiative to determine stakeholder preferences for additional forums for public participation and make recommendations for implementation.

Completion Goal: 12/15/97

Champion: Frank Crescenzo, Brookhaven Group

Implementation Plan:

- Conduct public meetings to assess community leaders preferred formats for community involvement - 06/30/97
- Battelle Memorial Institute completes interviews with key Brookhaven stakeholders and makes recommendations on increased public involvement opportunities - 08/15/97
- DOE and BNL make joint decisions on which recommendations it will implement - 09/15/97
- Issue final plan for community involvement - 09/30/97
- Implement all recommendations that have been accepted - 12/15/97

B. ACTION ITEM: 4.8.B

BHG will obtain BNL worker and public input for proposal criteria for the new contract.

Completion Goal: 06/24/97

Champion: Joe Dasilva, Brookhaven Group

Implementation Plan:

- Conduct meeting with BNL employees to provide information to them on how to participate in the process - 05/28/97
- Conduct meeting with the public to provide information to them on how to participate in the process - 05/29/97
- Receive comments from the public on the Strategic Solicitation Plan - 06/24/97

5.0 Brookhaven National Laboratory Actions

The DOE Oversight Report noted three specific deficiencies that indicated weaknesses in the Laboratory's ES&H programs requiring specific corrective actions. These deficiencies were the electrical incident at the National Synchrotron Light Source (NSLS), the use of radiation technicians whose training was not fully documented, and the exposure of a chemist to a toxic material. The first incident points to issues of work planning, roles and responsibilities, and standards. The use of technicians whose training was not fully documented for radiation work encompasses a training issue. The exposure of the chemist was the result of inadequate safety review and supervision.

The Laboratory moved aggressively to institute both short-term and long-term corrective actions. In response to the electrical incident at the NSLS, a number of actions have been taken to provide the necessary training and to review and revise the BNL standard on electrical safety. (Action Item 5.6.A) In response to the use of radiation technicians whose training was not fully documented, these Facility Service radiation technicians were immediately removed from their jobs and put into training. The situation has been reviewed and the Laboratory has additional issues with work planning and the adequacy of the Radiation Work Permits. (Action Item 5.3.A) In reviewing the incident associated with the potential exposure of a chemist to a toxic chemical, the Laboratory identified the failure to carry out an experimental safety review as the root cause of the incident. (Action Item 5.5.A)

While specific actions have been taken and are ongoing to respond to these incidents, long-term activities are needed to change the institutional culture at the Laboratory and ensure that "safety first" is the way in which the Laboratory conducts business. The Laboratory is committed to move forward with the same rigor and aggressiveness that it applies to its research mission, to make safety and environmental stewardship integral aspects of every activity at the site. The Laboratory has mapped a path that will ensure excellence in ES&H culture and be responsive to the expectations of its neighbors. The Laboratory has embarked on a Management Systems Improvement Program (MSIP) to ensure long-term success. The Program is guided by three principles: leadership, a holistic approach, and a focus on performance.

Leadership: The success of BNL endeavors relies on a strong leadership approach, involving senior management. Cultural changes must start at the highest levels of the Laboratory and be fostered by management down to each and every employee. BNL's focus is on preserving the long-term viability of the Laboratory by achieving and sustaining excellence in a safety-first mission. With strong leadership, BNL will build confidence with stakeholders, establish line management ownership, and develop proactive approaches for the future. In everything the Laboratory undertakes, it will ensure effective and open dialogue with all constituents.

Holistic Approach: The Laboratory will exercise care to avoid actions which confuse or impede long-term improvements. The Laboratory will consolidate activities into systems improvements and deal decisively with real and achievable near-term and long-term corrective actions. The Laboratory will apply the principles of project management to its efforts and move the Program to completion.

Performance: The Laboratory will build trust through performance. To achieve this goal, management systems already in place and others that will be implemented will be based on sound *basic business practices*. The Laboratory will achieve systems to balance priorities, ensure it has standards in place that reflect the needs of its mission and the values of the community. The Laboratory will fully implement systems to control and mitigate hazards in the workplace and ensure that all staff are appropriately trained. The focus will be on activities that will result in long term improvements and a true cultural change involving the entire Laboratory community.

The Laboratory's MSIP encompasses both administrative and systems initiatives that are designed to produce a dramatic change in the culture of the Laboratory as well as improve the efficacy and efficiency of operations by integrating environmental quality, safety and health into all activities. A full description of the Laboratory's MSIP is provided in Appendix A to this Implementation Plan along with the Work Breakdown Structure (WBS) Summary and Dictionary. The detailed project plan and schedule for the program will be completed by August 30, 1997, as given in the DOE Action Plan released in June 1997.

Although the development of the program schedule for the MSIP is in progress, several high-priority actions have been moving forward prior to completion of the overall Program schedule.

These actions are listed below and organized according to the seven principles of ISM. It should be noted that the dates associated with the milestones listed in this section may be slightly modified when the MSIP is issued on August 30, 1997.

5.1 Line Management Responsibility for Safety

A. ACTION ITEM: 5.1.A

Enhance leadership at BNL with management changes and a new Leadership Council.

Completion Goal: 09/30/97

Champion: Brookhaven National Laboratory

Implementation Plan:

The Leadership initiative includes high-level actions needed to revitalize management of the

Laboratory. Core values will be developed, core competencies of the Laboratory will be defined, and performance measures will be utilized to improve overall relevance to mission and to more sharply focus on ES&H (WBS 1.1).

- Appoint Interim Director/Deputy Director (WBS 1.1.2.1) - 04/29/97
- Form Leadership Council, consisting of staff reporting directly to the Laboratory Director - 05/12/97
- Develop Leadership Council procedure (WBS 1.1.2.12) - 09/30/97

B. ACTION ITEM: 5.1.B

Develop and implement the Management Systems Improvement Program.

Completion Goal: 09/30/97

Champion: Brookhaven National Laboratory

Implementation Plan:

Management Systems Improvement Program (MSIP) (WBS 1.1.3): The MSIP continues to develop under the guidance of the BNL Leadership Council. The Program description document has been prepared, a work breakdown structure summary and dictionary have been developed, and scheduling is in progress. The most significant near-term event will be the transition to a permanent staff for execution of the program and policy/ oversight role, rather than a development role, for the Leadership Council.

- Complete initial WBS-based schedule - 08/30/97
- Assign permanent Program Manager and staff - 09/30/97
- Complete Program Management Plan - 09/30/97

5.2 Clear Roles and Responsibilities

Each initiative under the MSIP includes activities to ensure that roles and responsibilities are clearly defined. Several steps have been taken to clarify and focus responsibilities. These include the formation of the Leadership Council with assigned responsibilities for the major tasks involved in the MSIP.

5.3 Competence Commensurate with Responsibilities

A. ACTION ITEM: 5.3.A

Improve the training program for radiation control technicians (RCTs).

Completion Goal: 07/03/97

Champion: Brookhaven National Laboratory

Implementation Plan:

Training (WBS 1.3.6): Improvements to the overall training programs at BNL are included in this element of the MSIP WBS. This covers site wide implementation of the database, new courses and clarification of roles/responsibilities. Near-term efforts include the training of RCTs.

- Remove all RCTs whose training was not fully documented from performing Health Physics activities - 03/14/97
- Develop task-specific checklist for technicians to identify tasks for which they are qualified - 03/14/97
- Identify RCTs in need of additional training - 03/24/97
- Develop oral board examination for qualification of RCTs - 05/15/97
- Complete first round of certification for RCTs - 07/01/97
- Complete training for RCTs identified - 07/03/97

B. ACTION ITEM: 5.3.B

Develop a plan for construction safety review under a DOE/EH mentor program.

Completion Goal: 07/25/97

Champion: Brookhaven National Laboratory

Implementation Plan:

DOE/EH Mentor Program (WBS 1.1.2.2.3): As part of the Leadership initiative, BNL is partnering with DOE in a mentoring effort. The DOE/EH Mentor Program has been started with the first area of emphasis in Self-Assessment. The Technical Assistance Plan has been prepared and is under review by BNL and DOE. A second initiative using the program has been identified in the conduct of a Construction Safety Review. Follow-on projects are planned in Radiation Safety and predictive ES&H performance measures.

- Develop plan for Construction Safety Review - 07/25/97

5.4 Balanced Priorities

A. ACTION ITEM: 5.4.A

Implement an improved commitment and corrective action tracking system.

Completion Goal: 08/30/98

Champion: Brookhaven National Laboratory

Implementation Plan:

Commitments and Corrective Action Tracking System (CCATS) (WBS 1.3.2): BNL has been piloting a Lab-wide CCATS Program in three Laboratory organizations. The system is designed for site-wide tracking and roll-up of assessment results and regulatory commitments. The next steps are to develop the analytical tools that will maximize the benefits of the information, the roles and responsibilities for managing and maintaining the system, and, finally, to implement the system at the institutional level.

- Complete beta test of CCATS Phase I - 09/15/97
- Issue ES&H Standard on CCATS - 09/30/97
- Complete Laboratory-wide deployment of CCATS - 12/30/97
- Complete development of analytical tools - 08/30/98

B. ACTION ITEM: 5.4.B

Review FY98 and FY99 ES&H priorities.

Completion Goal: 08/15/97

Champion: Brookhaven National Laboratory

Implementation Plan:

ES&H Management Advisory Group (WBS 1.1.2.2.1): The ES&H Management Advisory Group has been formed and is currently reviewing the FY98 and FY99 ES&H project prioritizations.

- Initiate review of FY98 and FY99 ES&H priorities - 06/27/97
- Review comments on FY98 and FY99 ES&H prioritization - 08/15/97

C. ACTION ITEM: 5.4.C

Improve the priority assessment system.

Completion Goal: 08/30/97

Champion: Brookhaven National Laboratory

Implementation Plan:

Priority Assessment System (WBS 1.3.3): BNL is addressing the need for improvements in the priority assessment system by focussing on redesigning the prioritization methodology, improving the system with which the prioritization system interfaces, simplifying the system to facilitate its use by all Laboratory organizations, and ensuring an appropriate level of senior management oversight. The ES&H Management Advisory Group (ESHMAG) will play a key role in the redevelopment of this system.

- Initiate review (Leadership Council Task Group) - 07/14/97
- Refine strategic goals and projects for ESHMAG - 07/15/97
- Complete review of FY98/99 priorities - 08/15/97
- Develop scope/schedule/resource needs for process redesign effort - 08/30/97

5.5 Identification of Safety Standards and Requirements

A. ACTION ITEM: 5.5.A

Develop the set of standards that are appropriate for the work conducted at BNL.

Completion Goal: 11/30/98

Champion: Brookhaven National Laboratory

Implementation Plan:

ES&H Standards and Requirements (WBS 1.3.7): The goal of this element of the project is to identify the standards that are needed to conduct work in a safe and effective manner. The WSS set for BNL will be developed with worker and stakeholder participation.

This element of the WBS includes the activities required to arrive at the set of standards that are appropriate for the work conducted by the Laboratory. It includes the development of criteria for determining those standards that are applicable and appropriate for the Laboratory. This activity is critical to the expectations and core values defined within WBS 1.1.1.1 and WBS 1.1.1.2. Key to the success of the element is the establishment of the process by which the standards are defined and accord is reached with the stakeholders. This activity is therefore critically linked to the communications initiative (WBS 1.2). A process similar to that used by the Lawrence Berkeley National Laboratory or the Thomas Jefferson National Accelerator Facility will be adopted as part of this element.

Actions have been initiated to address the issue of experimental safety review requirements—specifically, to address the incident involving potential exposure of a chemist to a toxic chemical.

The following actions have been taken or will be taken in addition to those planned for WSS

activities:

- Stop work on the experiment involving exposure of the chemist - 02/12/97
- Occupational Medicine Clinic follows-up with chemist - 02/13/97
- Chemistry Department reviews experiment prior to restart - 03/28/97
- Instruct all Chemistry Department staff on Laboratory policy for reporting and follow-up of work-related injuries and illnesses - 04/23/97
- Chemistry Department modifies the review mechanism for Laboratory Experimental Safety Reviews - 08/01/97
- Laboratory issues Experimental Safety Review Standard - 08/30/97
- Develop schedule and resource needs for WSS process - 08/30/97
- Initiate WSS with BHG - 10/01/97
- Complete WSS - 11/30/98

5.6 Hazard Controls Tailored to Work Being Performed

A. ACTION ITEM: 5.6.A

Improve work planning processes related to electrical safety and identify gaps in other work planning processes.

Completion Goal: 12/30/97

Champion: Brookhaven National Laboratory

Implementation Plan:

Five Core Functions (WBS 1.3.5): Current programs will be mapped to the five core functions of work planning and missing elements will be identified. Specific actions will be developed to ensure incorporation of these functions into the planning and execution of all work activities. The EWP process has been piloted by BNL at the AGS and within the Plant Engineering Division. Both pilot processes will be used as the basis for a Laboratory-wide EWP system.

The Laboratory has taken the following actions, and will complete activities to address the incident of "working hot" (i.e., working on energized electrical systems) at the NSLS.

- Cease all "working hot" at the NSLS - 03/10/97
- Management meets with staff to reemphasize the responsibility to work safely - 03/11/97
- Assign a professionally qualified and certified electrical supervisor to review the next day's planned work with the lead electrician to improve electrical safety planning - 03/11/97

- Develop staffing strategy to improve supervision and work planning for assigned electricians - 04/11/97
- Purchase personal protective equipment to facilitate working hot - 04/30/97
- Develop and issue a memorandum of understanding to clarify department supervisory responsibilities with respect to labor assigned from the electrical supervisor to another organization and the responsibilities for work planning and safety - 06/03/97
- Provide electrical safety training for Plant Engineering electricians - 06/11/97
- Review and revise BNL ES&H Standard on Electrical Safety - 10/30/97
- Inventory and document existing work planning processes and identify gaps - 12/30/97

B. ACTION ITEM: 5.6.B

Improve the BNL Self-Assessment (SA) Program.

Completion Goal: 10/10/97

Champion: Brookhaven National Laboratory

Implementation Plan:

ESH Assessment System (WBS 1.3.1): The first step to upgrade the BNL SA Program has been initiated through the involvement of the EH Mentor Program staff. A Technical Assistance Plan has been prepared for assistance in the area of self-assessment with an emphasis on modifying and expanding BNL's current Tier I, II and III Program to become a worker-based process.

- Establish BNL SA Improvement Team - 07/25/97
- Improvement Team prepares enhanced SA proposal - 09/12/97
- Improvement Team develops SA program plan, procedures, guidance, etc. - 10/10/97

C. ACTION ITEM: 5.6.C

Work with BHG and EPA staff on environmental reviews of BNL processes.

Completion Goal: 09/15/97

Champion: Brookhaven National Laboratory

Implementation Plan:

Environmental Management System (WBS 1.3.9): Planning has been in progress with BHG and EPA staff on the Phase II and III reviews of Laboratory processes. In addition, an internal review of BNL facilities has been ongoing for several months. BNL will use all information gathered from these reviews to improve its Environmental Management System.

- Facility Review Phase I Draft Report - 07/02/97
- Complete review of Phase I Report - 07/30/97
- Facility Review Phase II Draft Report - 08/15/97
- Complete review of Phase II Report - 08/30/97
- Issue Facility Review Phase I Report - 08/30/97
- Issue Facility Review Phase II Report - 09/15/97

See Action Item 4.4.E for milestones on Phase II and Phase III Environmental Management Systems Reviews by EPA.

5.7 Operations Authorization

Actions under this principle will be developed in accordance with the operations authorization responsibility definitions and protocols being developed under BHG Action Item 4.7.A.

5.8 Public Participation

A. ACTION ITEM: 5.8.A

Strengthen the communications infrastructure.

Completion Goal: 09/30/98

Champion: Brookhaven National Laboratory

Implementation Plan:

Communications (WBS 1.2): The communications infrastructure of BNL will be strengthened through actions to be taken under this initiative. Planning is the first focus, with development of near term plans for FY 1998 and for HFBR restart. A communications management system will be developed to consolidate current policies/procedures and to streamline and improve communication.

- Conduct staff training communication skills - 04/07/97
- Develop draft HFBR Communication Plan with BHG - 06/25/97
- Brief local elected officials of Suffolk County, New York - 07/01/97
- Draft communication improvement plan - 09/30/98

List of Acronyms

AD	-	Associate/Assistant Director
AGS	-	Alternating Gradient Synchrotron
AUI	-	Associated Universities, Inc.
BHG	-	Brookhaven Group
BNL	-	Brookhaven National Laboratory
CCATS	-	Commitments and Corrective Action Tracking System
CH	-	Chicago Operations Office
COE	-	Conduct of Experiments
CR	-	Office of the Chief Financial Officer
DAT	-	Department of Advanced Technology, BNL
DOE	-	U.S. Department of Energy
EH	-	Office of Environment, Safety and Health
EPA	-	U.S. Environmental Protection Agency
ER	-	Office of Energy Research
ES&H	-	Environment, Safety and Health
ESHMAG	-	Environment, Safety, and Health Management Advisory Group
EWP	-	Enhanced Work Planning
Fermilab	-	Fermi National Accelerator Laboratory
FM	-	Office of Field Management
FRAM	-	Functions, Responsibilities and Authorities Manual
GOGO	-	Government-owned, government-operated
HFBR	-	High Flux Beam Reactor
ISM	-	Integrated Safety Management
ISME	-	Integrated Safety Management Evaluation
LBNL	-	Lawrence Berkeley National Laboratory
M&O	-	Management and Operating (contractor)
MSIP	-	Management Systems Improvement Program
NSLS	-	National Synchrotron Light Source
RCT	-	Radiation Control Technician
SA	-	Self-assessment (Program)
SAR	-	Safety Analysis Report
SCDHS	-	Suffolk County Department of Health Services
SP	-	Strategic Plan
TBD	-	To be determined
TJNAF	-	Thomas Jefferson National Accelerator Facility
WBS	-	Work Breakdown Structure
WSS	-	Work Smart Standards